

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: EOG Resources, Inc.
Well Name/Number: Ruffatto No. 3-3130H
Location: SE SW Section 31T26N R53E
County: Richland, MT; **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 35-40 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick rig 1000 HP to drill to 18,532'

MD/9,095'TVD Bakken Formation single lateral horizontal well.

Possible H2S gas production: Slight

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Gas pipeline system in the area to take associated gas or if not associated gas will be flared.

Water Quality

(possible concerns)

Salt/oil based mud: yes to intermediate casing string will be oil based drilling fluids. Horizontal section to be drilled with saltwater brine. Surface casing hole to be drilled with freshwater and freshwater mud.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to West Charlie Creek, about 1/16 of a mile to the north from this location.

Water well contamination: No, nearby water wells are all between 41' and 100' in depth. All water wells are 5/8 of a mile and further from this location. Surface casing will be drilled to 852' and 852' of steel surface casing set and cemented to surface to protect groundwaters.

Porous/permeable soils: No, silty clay soils.

Class I stream drainage: No, Class I stream drainages in the area of review.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 852' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Surface hole will be drilled with freshwater and freshwater muds. Surface casing will be cemented to surface.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None anticipated.

High erosion potential: No, moderate cut, up to 19.4' and moderate fill, up to 10.0' required.
Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, large well site 450' X 330'.
Damage to improvements: No, surface use is grassland.
Conflict with existing land use/values: Slight
Mitigation
☐ Avoid improvements (topographic tolerance)
☐ Exception location requested
☒ Stockpile topsoil
☐ Stream Crossing Permit (other agency review)
☒ Reclaim unused part of wellsite if productive
☐ Special construction methods to enhance reclamation
☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).
Comments: Access will be off existing county road #143 and #314. About 2545' of new road will be constructed from the county road into this location. No concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residence is about 5/8 mile to the southwest from this location.
Possibility of H2S: Slight.
Size of rig/length of drilling time: Triple derrick drilling rig should take about 35 to 40 days drilling time.
Mitigation:
☒ Proper BOP equipment
☐ Topographic sound barriers
☐ H2S contingency and/or evacuation plan
☐ Special equipment/procedures requirements
☐ Other: _____
Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No new access created into wildlife habitat.
Conflict with game range/refuge management: No game/refuges in the area.
Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate specie is the Greater Sage Grouse.
Mitigation:
☐ Avoidance (topographic tolerance/exception)
☐ Other agency review (DFWP, federal agencies, DSL)
☐ Screening/fencing of pits, drillsite
☐ Other: _____
Comments: Private surface grasslands. No live water in the area of review. NH tracker website indicates only species of concern is the Golden Eagle. Since eagles are very mobile there should be no threat with the drilling of this well. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DSL, federal agencies)

☐ Other: _____

Comments: Private surface grasslands. No concerns.

Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: No concerns.

Remarks or Special Concerns for this site

Wildcat well to drill a 18,532' MD/9,095'TVD Bakken Formation single lateral horizontal well

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected with the drilling of this well. Some short term impacts will occur with the drilling of this well.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: September 23, 2010

Other Persons Contacted:

(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website.

(subject discussed)

Water wells in Richland County

(date)

September 2, 2010

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Richland County

(subject discussed)

September 2, 2010

(date)

Montana Natural Heritage Program, Montana FWP

(Name and Agency)

Species of Concern, mammals and birds

(subject discussed)

September 2 & 23 2010

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____